Habitats and Adaptations

3-2 The student will demonstrate an understanding of the structures, characteristics, and adaptations of organisms that allow them to function and survive within their habitats. (Life Science)

3-2.4 Explain how changes in the habitats of plants and animals affect their survival.
Taxonomy level: 2.7-B Understand Conceptual Knowledge

Previous/Future knowledge: Students have been introduced to distinct environments for plants in 1st grade (1-2.5) and animals in 2nd grade (2-2.3). In 5th grade (5-2.2), students will develop a more in-depth understanding of the abiotic factors in an ecosystem and will explain how limiting factors affect populations.

It is essential for students to know that *resources* (basic needs) within a habitat can keep only a certain number of plants and animals alive. This depends on how well the habitat provides for the needs of the plant or animal. Changes in a habitat can affect the survival of a plant and animal. There are many changes that can occur within a habitat that would force the animals or plants to change or adapt to survive.

- Habitat change can occur naturally. Some changes occur rapidly, for example, disease, fire, hurricanes, landslides, volcanoes, earthquakes, or changes in temperature or amount of rainfall (drought or flood) can change a habitat. Some changes occur slowly, for example, the changes in a plant life due to changes in sunlight (grasses to shrubs to trees), or if erosion occurs, causing the soil to wear away, fewer plants will be able to survive. When these events happen, the habitat usually cannot provide the needs for the animals or plants to survive there anymore.
- Humans can also cause habitat changes. For example, clearing land to build homes, buildings, or farmland can cause the animals in that area to have to move to another location for food or shelter. Plants that normally grow there would not find the conditions for their growth available anymore.
- Other animals or plants could also move into a habitat taking up needed space and food.
- If animals or plants cannot adapt to changes in the environment, *extinction* (loss of an entire group of organisms) of that type of animal or plant can occur.

It is not essential for students to know the underlying reasons why or the causes for the natural events.

Assessment Guidelines:
The objective of this indicator is to *explain* how changes in a habitat can affect the survival of a plant or animal; therefore, the primary focus of assessment should be to construct a cause-and-effect model of the way a change in a habitat effects the survival of a plant or animal. However, appropriate assessments should also require student to *summarize* major points about changes in habitats affecting plant and animal survival; or *identify* the change as caused by natural events or caused by living things.